

The manuscript describes an experiment aimed at replicating that previously conducted by Dobek, Heth and Pierce (2012), but increasing the amount of tension of the running wheels. According to this study, the exercise carried out on the wheel could serve as an aversive US in a forward conditioned taste aversion preparation, as well as an appetitive US if the flavor acting as the CS is presented after the US (backward conditioning). This is an interesting finding that deserves to be replicated and addressed in more depth.

Here, the authors found greater consumption of the flavour presented after exercising on the wheels, this result being interpreted as a conditioned preference. However, they found no evidence of a conditioned taste aversion for the flavour presented before the wheel. This failure to replicate the findings of the original experiment is suggested to be the result of the greater tension of the running wheel. However, the lack of a control, along with the parameters originally employed by Dobek et al. make it difficult to accept this conclusion and this should merely be presented as a speculation in the discussion. Moreover, the discussion is almost non-existent.

In the following lines I have highlighted some limitations that I found in several sections of the manuscript.

Methods.

-I find it difficult to understand why in a conditioned taste aversion procedure, food, but not water, was restricted. Further, the amount of food was reduced between training and conditioning, with no obvious explanation as to why. These aspects of the procedure should be explained.

-The experiment was conducted with fewer and smaller rats than usual. Thus, the “n” should be recognized as a limitation of the study.

-The dependent variable and measures appear to be different in the Method and Results sections. This needs to be addressed.

Results.

-Training and conditioning data are missing and they should be presented. A curve for the conditioning data would allow us at least observe whether or not conditioning occurred across the trials.

-Even when aversive forward conditioning might be unsuccessful, why would consumption of such a CS be greater than the control flavour on the preference test? This finding should be discussed. Without the conditioning data, it remains possible that the main

finding could be related to an unconditioned preference for some flavours. An analysis aimed to test this possibility might be informative.

Discussion

As I mentioned previously, the Discussion appears to be missing. Some issues that the authors might discuss could be:

- The theoretical accounts that might explain the findings.
- The effect that the noticeable decrement in the number of wheel-turns across the trials might have on forward and backward conditioning.
- The impact that the food deprivation—and the caloric restriction that this entails—, might have on appetitive and aversive conditioning.